specific arterial anatomy and physiology of the living subject; [and]

calculating a cerebral flow of the circulatory network of the living subject based upon the corrected model; and

calculating a cerebral flow of the circulatory network based upon a selected cerebral flow perturbation.

Claim 6, line 6, after "vessel", insert the words -- using an Attention-Based Model--.

Amend claim 12 as follows:

12. (Once Amended) Apparatus for modeling cerebral circulation in a living subject, such apparatus comprising:

a [cerebral circulation] pressure and flow model of an arterial circulatory network for a cerebrum of living subjects in general;

means for correcting the model of the circulatory network to substantially conform to [the overall cerebral physiology] a specific arterial anatomy and physiology of the living subject; [and]

means for calculating a cerebral flow of the circulatory network of the living subject based upon the corrected model; and

means for calculating a cerebral flow of the circulatory network based upon a selected cerebral flow perturbation.

Amend claim 23 as follows:

23. (Once Amended) Apparatus for modeling cerebral circulation in a living subject, such apparatus comprising:

a [cerebral circulation] pressure and flow model of an arterial circulatory network for a cerebrum of living subjects in general;

a correction processor adapted to correct the model of the circulatory network to substantially conform to [the overall cerebral physiology] a specific arterial anatomy and physiology of the living subject; and

a flow processor adapted to calculate a cerebral flow of the circulatory network of the living subject based upon the corrected model and a cerebral flow of the circulatory network based upon a selected cerebral flow perturbation.

29. A method of modeling a surgical alteration of cerebral circulation in a living human subject, such method comprising the steps of:

developing a pressure and flow model of an arterial circulatory network for living subjects in general;

correcting the model of the circulatory network to substantially conform [to the cerebral physiology] to a specific

arterial anatomy and physiology of the living subject;

perturbing the corrected model of the circulatory network; and

determining a set of flow changes occurring within the circulatory network as a result of the perturbation.

40. Apparatus for modeling a surgical alteration of cerebral circulation in a living human subject, such apparatus comprising:

a [cerebral] pressure and flow model of an arterial circulatory network for a cerebrum of living subjects in general;

means for correcting the model of the circulatory network to substantially conform to the cerebral physiology of the living subject;

means for perturbing the corrected model of the circulatory network; and

means for determining a set of flow changes occurring within the model of the circulatory network as a result of the perturbation.

50. A method of modeling a surgical alteration of circulation in a predetermined region of an arterial circulatory network of a cerebrum of a living human subject, such method comprising the steps of:

[developing] providing a algorithm which defines a pressure and flow model of the [region] arterial circulatory network of the cerebrum for living subjects in general;

correcting the model to substantially conform to [the physiology] a specific arterial anatomy and physiology of the [region of the] living subject;

perturbing a pressure and flow within the predetermined region of the corrected model to simulate the surgical alteration; and